NEW-YORK, Friday, Oct. 25.

To the Editor of the Tribune:

SIR: I send you a translation, too literal for rhyme or rhythm, of a little poem by Gethe. It is taken from his strange work entitled "Soul Matters and Maxims of Life," the whole of which will appear in an English dress. O. O.

REPENTANCE.

Dwell not with the old memories
Let the Past lie behind thee,
For the Future is before thee:
And it will be thy foe,
If thou makest it not a friend.

Be not too remorseful,
Consume not thyself with sorrow,
In work is thy salvation;
Only strive to this end, [hast been.
That thou may'st be better than thou

Vain all help of man,
Thou art thine own Redeemer.
Good and Evil in thy heart,
Strive for its possession:
Shall the victor be the mild Christ?

Then go forth cheerfully
To the new work of the morning;
Bury the old Grief,
The Grief and the deed of Wrong,
The memory of which haunts thee.

CHURCH CHORALS AND CHOIR STUDIES. By R. STORRS WILLIS. New-York: Clark, Austin & Smith, 205 Broadway.

This volume—which, we may remark at the start, is got up in a style of unusual neatness and elegance—is destined to render important service in the cultivation of true church music in this country. Its author, Mr. Willis, is already well known to the musical public by his popular "Glenmary Waltzes," and a number of fine songs, to which he also contributed the words. His education as a composer has been most careful and thorough, occupying more than six years of life in Germany, during which period he had the advice and encouragement of the best masters—among them Mendelssohn, who was then in the prime of his power. The genius Mr Willis has already shown, in his earlier compositions as well as his maturer works, does not need our pointing out; we only refer to it to justify the promise of the volume before us.

The work commences with a "Prelude," giving the history of Church Music, from the earliest time—a very interesting and appropriate introduction to the subject, which has heretofore been neglected in Books of Church Music. Then follow some thoughts on Worship, and a description of American Church Music; after which Mr. Willis takes occasion to give his views on Congregational Singing. The style of this introduction is clear and eloquent, comprising all that is necessary to a just view of the subject.

The volume contains some sixty or seventy chorals, printed according to the order of their meter, the most of them being newly arranged. The heavy character of many of them is greatly relieved by their translation into 4-4 time, and the substitution of more pleasing harmonies. Following the specimens in each meter, the author has introduced what he terms Choir Studies—a collection of original airs, written to familiar hymns, and better adapted to choir practice or singing in the home and social circle, on account of their more artistic and pleasing character. These Studies, 78 in number, form the most characteristic portion of the work, and are of special interest to teachers or students of Sacred Music.

Mr. Willis's advocacy of Congregational Singing in Churches is based on his idea of Worship, which is drawn with a delicate and subtle pen. We copy from his pages an illustration of the character and effect of

CONGREGATIONAL SINGING.

An instance which realized the author's ideal of this style of music fell under his observation in one of the cities of central Germany. In this city the leading Protestant Church being closed for some months while undergoing repairs, the Catholics, with a liberality of sentiment sometimes met with in that country, threw open their magnificent edifice to the worship of their Protestant brethren, their own service being at an earlier hour. The only change which was made in the interior, was the concealment of the altar by a curtain falling from the lofty ceiling to the floor. In front of this was a temporary pulpit for the clergyman.

Entering, on a Sabbath morning, this cathedral, upon the front of which stood, solitarily, in imposing capitals, the solemn word—DEO—the immense space was already crowded with worshippers. On the sides of the altar was the costly apartment, or curtained tribune for the reigning family, a Protestant House, the Duke and his Court being present. The broad area below was filled, partly with garrison troops, partly with citizens, and partly with peasantry from the country, in their picturesque Sabbath costumes. The introductory voluntary had just commenced, and the powerful organ, which was concealed behind the curtain and seemed to have its place near the altar, was filling and crowding every arch and corner of the immense pile with its massive harmonies. The air around us was a sea of music, the rich surgings of which broke majestically and solemnly on the vaulted roof, the lofty pillar, and—the silent heart.

While this was proceeding, the devotional multitude were finding from the book in the hand of each, the first hymn, indicated, as is usual in the German churches, upon tablets placed at convenient points upon the sides of the church. Gradually the tide of organ tones flowed into the familiar strain of a solemn church choral. At that signal the assembled multitude, from the monarch to the peasant, arose, as by a common impulse, to their feet; and, as the introductory strain ceased, and a clear trumpet (concealed also from the eye) led off, with the organ, the choral melody, then from every voice and heart of the vast multitude arose a mighty song of praise to God—a song which the massive roof seemed scarce capable of repressing—lofty, sublime, soul-thrilling.

As the last echoes of this choral hallelujah died upon the ear, the clergyman for the first time made his appearance and pronounced in a deep-toned and solemn voice, the opening prayer. He retired, and again the unseen organ renewed the choral strain, and once more the thousand-voiced chorus swelled to the skies. The sermon succeeded, followed by the closing choral.

Here, then, unpremeditatedly and unconsciously to these worshippers, (for each was engaged in his own devotions,) here was an effect, devotional and musical, unsurpassed, we thought, by the conscious and premeditated effects of any church in the world. And to what shall we ascribe it? To circumstances, from which (though partly accidental) we may yet, perhaps, glean some instruction: the exclusion of all artistic machinery from the eye and sense of the worshipper; the absence of any unrequired *personal* intervention between the soul and its Maker; the simultaneousness and apparent *spontaneousness* of the first universal act of worship (unannounced and unrecited preparatorily, before engaged in actually;) the common level of devotion, from which each soul bore its humble, individual part, in the common worship; the deep reverence and earnestness everywhere evinced, (a feature so unusual, strange to say, in our churches at home, and yet so common abroad;) and last, but most worthy of mark, the utter unconsciousness of each worshipper, both of *himself*, and the observing eye of others, as well as the *effect* produced by the music and the act of devotion, either individual or general—a circumstance to be ascribed, no doubt, to the common devotional occupation of all. And yet this very effect alluded to, though unnoticed by any special thought, was undoubtedly *felt*, sympathetically, in the inmost soul of every worshipper; the very essence and perfection, we conceive, of all church effects.

☞ Hon. Jeff. Davis has been appointed to deliver a Eulogy on John C. Calhoun, on the first day of the meeting of the Legislature at Mississippi, before a meeting of the friends of SOUTHERN RIGHTS.

MACHINERY OF SOUTHERN MILLS.—The brig *Grand Turk*, has arrived at Savannah, from Providence, R. I. with an entire cargo of Machinery for the Macon Cotton and Wool Manufacturing Company, in that State.

☞ The people of Danbury, Ct. have started a subscription to erect a monument to the memory of Gen. Wooster.

☞ The Small-Pox has appeared at Augusta, Ga

Massachusetts—Mr. Mann's District.

BOSTON, Sunday, Nov. 3.

To the Editor of The Tribune:

Your Boston correspondent of Oct. 30, speaking of the result of the Convention in the VIIIth Congressional District, says: "The fact that the 'Whigs have thus thrown Mr. Mann overboard 'excites a profound sensation here, *but generally 'it is acceptable to the Whigs.*"

Let me assure you that the latter part of the statement is entirely destitute of truth. Since the Convention, I have been able to learn from various sources that great *dissatisfaction* prevails throughout the VIIIth District in particular, as well as through the whole State. It cannot be disguised that Mr. Mann has been repudiated on account of his fidelity to the cause of Human Freedom—for merely doing what almost every Whig Convention has instructed their members of Congress to do for the last four years; and now, having faithfully obeyed the voice of the People, as expressed in Conventions as well as Legislative Resolves during the same period, must be proscribed and killed off, merely to gratify a few of the personal friends of Mr. Webster who are determined on vengeance, is what the independent Whigs of the old Bay State will not so easily consent to.

Out of the immediate vicinity of Boston (which includes Dorchester and Roxbury), the doings of the Convention, I venture to predict, will have no binding effect. The honest farmers and mechanics of the VIIIth District will make a most energetic effort to secure the return of their faithful Representative to the next Congress.

Nor is the disaffection confined to the VIIIth District; Whigs throughout the whole State are alarmed and dissatisfied. The doings of this Convention have endangered everything—every Congressional Whig candidate will suffer in consequence; and many good Whigs confess that we shall lose the State. How can it be otherwise, when it is remembered that for many years we have been unable to elect our Governor by the People; and when we reflect that in many of the Counties the Free Soilers and Locos have united on the same ticket for Senators?—and they will not fail to do the same in many towns for their Representatives. Defeat, therefore, seems inevitable.

So long as our distinguished men were true to the cause of Human Freedom, the Whig party in Massachusetts have been able to retain their ascendancy; and now that many of them have become recreant and sundered the ligament that bound us together as a political party, we must suffer the penalty. Yours truly, V. H. H.

Yale College—Miss Beecher.

To the Editor of The Tribune:

In *The Tribune* of Tuesday you have a letter from Miss Beecher, which directly implicates Yale College in the pretended charges brought against a *certain young gentleman* in her book. If the justice she thus displays is characteristic of her work, she needs to commence reformation at home. The College, as such, has had no connection, direct or indirect, with the matter; neither the Faculty nor the Corporation (the President alone excepted) are connected with the Association of Clergymen she so seriously condemns—the obnoxious Professors being connected *solely* with the Theological School here. By no movement, that would not call for censure, could the College in any manner manifest their approval or disapprobation of occurrences here dragged before the public; and that, as individuals, any persons connected with this institution have desired any course other than one calculated to secure honor and justice and truth, Miss Beecher does not show. Will you not do the justice to this noble institution to free it from the unjust aspersions of Miss Beecher, at least as far as by publishing this protest from an ALUMNUS.

List of Patents

Issued from the U. S. Patent Office for the week ending Nov. 5, 1850.

(Carefully prepared for THE TRIBUNE.)

Alanson Carey of Worcester, Mass. for improvement in machines for dressing irregular forms. Dated Nov. 5, 1850.

William H. Davis of Maysville, Ky. for improvement in Rotary Pumps. Dated Nov. 5, 1850.

F. P. Dimpsel of Philadelphia, Pa. for improvement in Furnaces for steam boilers. Dated Nov. 5, 1850.

Richard A. Fisher of Sunbury, Pa. for improvement in Washing Machines. Dated Nov. 5, 1850.

Junius Judson and Alfred Judson of Rochester, N. Y. assignors to Junius Judson of Rochester, N. Y. for improved valves for Governors. Dated Nov. 5, 1850.

A. S. Macomber of Bennington, Vt for improvement in Straw Cutter. Dated Nov. 5, 1850.

William McCoy of Fannettsburgh, Pa. for improvement in Lime Kilns. Dated Nov. 5, 1850.

Joseph Pine of New-York, N. Y. Assignor to Benjamin Tine of New-York, N. Y. for improvement in the running-gear of carriages. Dated Nov. 5, 1850.

Wanton Rouse of Taunton, Mass. for improvements in operating the copping rail of cop-spinners. Dated Nov. 5, 1850.

Carl W. Schindler of New-York, N. Y. for improvement in hardening fats and oils. Dated Nov. 5, 1850.

Henry S. Vrooman of Springfield, Mass. for improvement in clamps for girding emery wheels. Dated Nov. 5, 1850.

Ezra J. Warner of Waterbury, Conn. for improved mode of fastening books and eyes upon cards. Dated Nov. 5, 1850.

Samuel R. Wilmot of Lafayette, Ind. for improvement in Fly-brushes. Dated Nov. 5, 1850.

John Butcher of Lowell, Mass. for improvements in apparatus for stretching and smoothing cloth. Dated Nov. 5, 1850.

John P. Hayes, of Boston, Mass. for improvement in portable furnaces. Dated Nov. 5, 1850.

George Starkweather of Hartford, Conn. for improvement in processes for curing meat. Dated Nov. 5, 1850.

HARD TO BEAR.—The *Charleston Mercury* unkindly assails the great meeting lately held at Castle Garden to save the Union, suppress the agitation against the Fugitive Slave law, defeat Washington Hunt, and appoint a Whig candidate for Congress on a dough-face vigilance Committee. The *Mercury* says that this most patriotic affair was nothing but another New-York humbug got up solely with a view to the interests of trade, hollow and selfish, designed simply to make money, a mere piece of stage effect, binding men to no course of action, involving no sacrifice, and having no head. Now we protest that this is altogether too bad; it isn't polite to kick your friends, especially when they have gone down on their knees to you. Beside, as to sacrifices, we reckon some of the gentlemen engaged in that meeting had to make considerable sacrifices on the altar of pure and undefiled patriotism.

AUTHORIZED EDITION OF JENNY LIND'S MUSIC.—The firms of Firth, Pond & Co. 1 Franklin-square, and Jollie, 300 Broadway, have brought out a large number of the beautiful songs sung by Jenny Lind. The whole edition is authenticated by the signatures of Benedict and Belletti. The songs are produced in a style of magnificence and profuse liberality such as we have never seen attempted in this country, and rarely in any other. We have received from No. 5 to 12 of the first series, comprising "The Bride and the Maiden," "A Morning Song," "Lonely I Wander," "Swedish Barcarole," "Love and Fidelity," and last, the celebrated "Bird Song," composed expressly for Mad'lle Lind by Taubert, probably the most popular and beautiful song she has yet sung, while the elegance of the vignette title page is equal to anything in lithographic art that we have seen in a long while. This superb edition so far exceeds all others that it cannot fail to have the most extensive sale in all quarters.

A WINDFALL.—It is stated that a fortune of £400,062 currency has been left by the will of one Col. Daniels, lately deceased at Liverpool, England, to "a certain bookseller in Connecticut, in the United States of America," whose name the testator did not remember. The Will, however, specifies that the bookseller aforesaid kept a bookstore south of the Tontine Hotel, New-Haven, and in a large four or five story block, made of brick, having a bank in one of its divisions. "And my reason for this bequest is," continues the testator, "that the said bookseller showed me many marks of kindness and courtesy, and visited me during a sickness of several days. He was a married man, a member of the English Church, and if now living, is about 40 years of age, or more." A codicil is added that if this bequest cannot be complied with, for lack of proof, or by reason of the death of the legatee, the property, consisting of shares in the Banks of Liverpool, England and Dumfries, Scotland, shall be divided between five parties first named in the Will. The question is, who is the fortunate man? Col. Daniels, it appears, was formerly a sojourner at New-Haven during the summer months.

Geological and Topographical View of New-Jersey......No. III.

To the Editors of the Tribune:

[Second Division Continued.]

By minute investigation of the secondary formation of this State we find that at Springfield where the trap range is almost entirely broken, the termination of the Newark mountains occur. The greenstone ridges here, some of which are of considerable elevation, take nearly a south-western direction about seventeen miles, and extend into the vicinity of Boundbrook: thence they take a north-west course for a considerable distance to a point at Pluckemin—"the second mountain taking the curviture of the first." Greenstone of the secondary formation is seldom found in ledges of any material magnitude; but it is exclusively the rock in place of the summit and sides of both ridges. The base of these hills, as usual, is formed by the sandstone which is found and situatad beneath the greenstone, nearly horizontally, with an unimportant dip, and frequently alternating with secondary limestone.

There is a range of mountain which extends in a south-western direction from Springfield which has been termed the Granite Ridge, by some geologists, in consequence of a grey stone which has been discovered in different places along its base, but a larger quantity of greenstone occupies the entire range, and which forms the summit rock of all the other ranges in its vicinity. The general direction of the primitive strata is north-west and south-east in the same course as the highland chain extends; but none of the secondary ranges of New-Jersey pursue a course parallel with the primitive. An even and exceedingly level surface is preserved by the latter, in many places, for a number of miles, which assumes the appearance of table-lands; but lofty eminences and elevations dot the high land ridges, which is a characteristic of the primitive formation. The secondary range which begins in the immediate neighborhood of Pompton, and about half a mile from the high lands which extends in a semicircular curve until it again connects with them, favors very materially the above hypothesis. The valley encircled by the Granite, or, more properly, Greenstone Ridge—and the high lands, is composed of fresh water alluvion; and there is no rock, in place, in many of its smaller hills. Between the sources of the river and the Little Falls peat of an excellent quality has been found in the valley. This plain is well calculated to yield abundance of that article, being in many places from three to four miles in width. Considerable quantities have also been discovered near the Morristown and Newark turnpike—the bed is from six to eight feet deep.

That broad and beautiful valley, commonly known as Pompton Plains, which is about 25 miles in circumference, is evidently composed of entire fresh water alluvion; still, the inhabitants, in digging wells, have frequently found strata of sand, gravel and clay, without rocks in place. From these indications it is evident, or at least probable, that at some period long ago, this whole valley was a lake of considerable magnitude. The waters from Long Pond, Pequannock and the Ramapo River find an outlet through it. Much of the plain is exceedingly marshy, embracing about 1,500 acres of good peat land. Granular or gillaceous oxide of iron is found here also, and occupies a space of nearly 200 acres. The West and North-west boundary of the plain is formed by the Highlands, "which in directions is bordered by the Pacgrande Mountain, pursuing a serpentive course from North Pompton to the vicinity of Morriston, separating the wide alluvial plains, watered by the Pompton and Passaic rivers." The summit rock, in place, upon this range, is observed to possess a singular uniformity, and is composed of a dark secondary fine grained greenstone, which has the appearance of being in a state of decomposition. In such a state, they form beautiful mural precipices, in some places, of considerable elevation, and, at their sides and base, a pretty good quality of sandstone is found. In this range of mountain the mineralogist or the lipidary can find sufficient interest to assuage their curiosity by examining the large quantity of zeolite, chalcedony, agate, analcime, prehnite, amethyst, jasper, crystals of quartz, and veins of satin spar. The agates are of various sizes, from that of small grains of sand to nearly two or three pounds in weight, nearly chalcedony. In one or two instances the fortification or eyed agate has been discovered here. Judge Kinsey, it is asserted upon good authority, discovered a mineral of this kind which weighed nearly sixteen pounds, which contained agate, white quartz and amethyst.

There is another range of greenstone, but of a less quantity and inferior quality, situated in the great Valley under consideration, which takes its rise near Chatham and runs in a Westerly direction for about ten miles, called Long Hill. In this ridge the rocks never appear in place, in consequence of the trap being in a state of decomposition. There are mural precipices near the middle of this hill, composed of a sort of shell-rock, somewhat resembling the stone found on the Raritan. This secondary formation follows the Highlands to the Delaware River. It is pierced by several broken ridges in many places, by the same trap character which we have just been describing. This is the case with the Nashanic, or Rocky Mountain, as it is sometimes called, and the hights in the vicinity of Rocky Hill, Herbert-town, Belmont, Lambertville and Woodville. Near Princeton, in this mountain, the sandstone differs quite materially from that found on the Passaic. Its extension is marked in a Northern direction as far as the first primitive ridge, north of Flemington, and composes the soil of the Valley lying between that ridge and Rocky Hill. It is somewhat of a darker red than the stone found at Newark, being quite grainless; and, when it is breathed upon, it emits a strong argillaceous odor, and by exposing it to air and moisture it readily decomposes. It is said to be compounded of alumine, iron and silex, with an inconsiderable quantity of sulphur, and may be called ferruginous shist. It is a very brittle rock, regularly stratified, and splits into very thin laminæ, and in all probability, in many places, rests upon tolerably good freestone. Southeast of this ridge and near Princeton, however, there are quite excellent red and white freestone, somewhat similar to that found on the Preakness ridge.

An alluvial elevation of the secondary formation, lying between Brunswick and Kingston, like the hills of the Nevisink, is composed of white sand and colored clay, which contains beds of ferruginous sand and pudding stone. At Trenton, which is situate at the southwestern portion of this district, there is some primitive rising through the secondary into craggy rocks, which assume a granitic character, and vary from loose micaceous shale to granite of a hard and massive nature, composed mostly of hard and compact gneiss. The Falls of the Delaware at the head of tide are formed by this rock. It then extends in a Southwestern direction through Pennsylvania. Large and beautiful specimens of gircon have been taken from the bed of the Delaware, near Trenton, from a mass of this rock.

We have now described the most populous, and, no doubt, the most wealthy portion of the State of New Jersey. Of course the soil is not so generally productive as the limestone of the primitive and transition regions; but it is well cultivated, and divided into numerous truck forms, from which all sorts of excellent produce is sent to the markets of New-York and Philadelphia. The manufacturing establishments, also, furnish a vast amount of wealth, and afford a tolerably good market for the farm productions.

In enumerating the different kinds of minerals in this division, we have not classed that of copper, which is found in this secondary formation in considerably large quantities. Nearly a century ago, several lumps of virgin copper, which weighed in the aggregate upward of 200 pounds, were plowed up in a field belonging to a gentleman whose name was Philip French, near New-Brunswick. This led to the discovery of quite a mass of copper in a mine. A company was formed to work it, but they never were very successful in their operations. The stones everywhere around this mine are highly colored, and beautiful copper pyrites are found in the adjacent quarries. Another mine near Belleville, on the Passaic, was discovered in 1719, by Arent Schuyler. This mine was never worked very advantageously, and, after passing through the hands of several companies, it was finally abandoned, and has not been worked for many years; although the ore is of good quality, and might, with prudent industry, be mined in quantities sufficient to yield a handsome profit. There are many veins which might be worked with profit, especially those which lie near the surface, and which are said to contain stamp ore. The most valuable vein of this character is imbedded in a stratum of freestone from 20 to 30 feet thick, and is called a pipe vein. It dips about 12 degrees from the horizon, rather by an irregular inclination than a straight line, and increases in richness with its depth. The ore of the principal veins yields from 60 to 70 per cent. of copper. It is said that this mine contains a good quantity of silver ore. There is still another mine north of Somerville, which contains, according to Dr. Torrey, "native copper, in irregular masses, phosphate of copper, carbonate of copper, green, red oxide of copper, the massive variety crystallized in octahedra, native silver in small masses, green quartz, chrysoprase, prehnite," &c.

These form the general geological features of the secondary formation of the State of New-Jersey, and my next letter will give a description of the third and last. Yours, &c. D. W. B.

No. IV.

To the Editor of the Tribune:

In my last letter I described the features of the second division of the geology of New Jersey; and in conclusion I will minutely describe the third. In this division, which might properly be styled the "mountainous division," and which extends in breadth varying from fifteen to thirty-five miles, in right angles with the general course of the mountains, the geological formations are strongly blended, and, in some places, almost inexplicably confounded. This district is exceedingly interesting, far more so than the others, not only in consequence of its broken geology, but also from the variety of soil, surface, &c., and its mineral wealth and vegetable productions. Rocks of a pretty uniform character are found in the primitive ridges; but they are of a coarse and uneven texture and surface, aggregated with crystals of quartz and feldspar. Sometimes they contain considerable quantities of shorl, garnets, hornblende, epidote and mica; and, in several places, I have noticed that for a considerable distance between these rocks none of the shorl or garnet minerals can be found. Granite, gneiss, and sienite, are formed in this section by the blending and combination of these materials; also, at some points, the primitive greenstone is seen.

The most common rocks in the transition section are grauwacke and grauwacke slate; but there are beautiful mural precipices miles in length, presented by the range of mountains in Bergen and Morris counties, of Long Pond, Green Pond, and Raffenberg, which are composed of a reddish-brown grauwacke, interspersed with indurated clay, red and white jasper, and red and white quartz. The rocks incline to the north-west, at an angle of about 40 deg., in even stratification; and, singular as it may seem, they are abundantly dispersed over and along the banks of the Pequannock, from Pompton to Newfoundland. Adjacent to the Pequannock, grauwacke, in place, resting on sienite, is frequently observed. At Ringwood, Mount Pleasant, and Suckasunny, magnetic iron ore of excellent quality is extensively mined. These ranges, according to geological surveys, are on the strata extending nearly 300 miles in length, from the White Hills in New Hampshire to Black River, and consequently embrace some of the richest and most productive iron mines in the United States. The beds are from eight to twelve feet in thickness, and the ore is of a remarkably excellent quality. Calcareous spar and asbestos are frequent, and sulphuret of iron abounds in many parts of the Highlands. The most extensive bed of the last which has been discovered is that in Morris county, near the eastern base of the copperas mountain, and opposite Green Pond. During the last war with Great Britain, considerable quantities of copperas were manufactured here. Some of the ore in this region is so highly impregnated with sulphur that it is rendered entirely useless for the forge. There is also found here large quantities of graphite or lead.

Large plates of block mica crystalized in hexaedral form, sometimes a foot in diameter, have been found on the Ramapo River, near the Monroe Iron Works. In the elevated primitive ranges west of the transition district, compact feldspar and epidote are very common; and in various parts of the transition range, compact limestone is also found. In the vicinity of New-Germantown, and on a line running south west and north-east from that point, pudding limestone, of a quality equal to that used in the Capital at Washington, is abundantly dispersed, and it is frequently converted into lime. West of Pompton Plains, in the primitive range of Morris County, in what is called Stonny Brook Mountain, chlorite slate is found in considerable quantities; and quite recently granular limestone has also been quarried in the same mountain. This mineral is of a beautiful clear white, admitting of an excellent polish, and is often associated with amianthus and talc, alternating in narrow veins. There is a grayish white marble found in the vicinity, which is rendered porphyritic by grains of noble serpentine distributed through it. It is exceedingly hard, and admits of a highly beautiful polish. There have also been observed metallic crystals, supposed to be chromate of iron, in the talc found at this place. From this mineral, chemists have extracted an acid, which if united with lead forms chromate of lead, and which is considered a valuable figment. Adjacent to Green Pond, a beautiful specimen of galena is found in the grauwacke ranges and tremolite seems to be extensively connected with the granular limestone of Stonny Brook.

After we ascend north-west of the transition district, we again arrive where the primitive "resumes its empire," and it then includes the Wallkill and Hamburg Mountains. These mountains are then continued by intersecting Schooley's and the Museonetcong, from the line of New-York to that of Pennsylvania, without even being broken by the interruption of a stream. The primitive, the secondary, and transition formations appear as if they were combined in this ridge, and a portion of the primitive section west of it. There are quite a number of innominate hills in this section, such as Marble Mountain, Scott's Mountain, Jenny Jump, Furnace Mountain, Pimple Hills, and Pochuck Mountain. The whole of this is a remarkably good mineral district—the best in New Jersey. Highly magnetic iron ore, but which is blended with foreign substances to a considerable extent, is found in Schooley's and Museonetcong Mountain. The foreign substances in this ore render it almost impossible, in some instances, to produce liquefaction. I remember, when but a boy, filling my pockets with an excellent quality of gunflints, which are dispersed in abundance along the sides of this hill, and also in the valley.

The Sparta, or Wallkill Valley, lies west of the Hamburg mountains, running in a northeasterly direction a distance of about twenty-five miles, to the State of New-York. This valley is quite notorious for the number and variety of its minerals. The bottom of the valley rests on a white crystalized limestone and marble, which rise into a low subsidiary ridge, and follow the course of the stream for nearly nine miles in extent. The greatest and most interesting features of this valley, are the metalliferous deposits. The first bed, which is at Franklin Furnace, appears like a black mountain moss: but it contains iron ore, very little magnetic, and, "as a new metalliferous combination it has received the name of Franklinite." It is composed of 60 per cent. of iron, 16 of zinc, and 17 of the red oxide of magnesia. When the Franklin Furnace was first constructed, it was suposed the ore was exceedingly valuable, but upon testing its quality, after the furnace had been erected, it was found to the great disappointment of its proprietor, Mr. Fowler, "that the ore was not only irreducible to metallic iron, but it obstructed the fusion of other ores." It could not be employed in as small quantities as one-tenth of the magnetic ore with which it was mixed, without producing what smelters call a salamander—that is an alloy of iron with manganese, which resists fusion, and crystalizes under the blast. At this furnace it has been very sparingly intermixed with the red oxide of zinc. This bed ceases to be discernible on the surface two miles north of the furnace; still it may be traced a distance of seven or eight miles to the southeast. D. W. B.

No. V.

In close proximity to the last mentioned bed of Magnetic Iron Ore, described in the preceding letter, and belonging to the third Geological division, there is also another huge mass of this mineral found at Stirling. It is, however, so combined with the red oxide of zinc, that the Franklinite chrystals are embedded in the zinc, "forming a metaliferous porphery." This ore was used to some purpose as brass, in the last year, by merely pounding and mixing it with copper. Frequently but a few feet from the Franklinite, there have been large beds of magnetic oxide of iron discovered, but which is so extensively mixed with hornblende rock as to make it of little value. There has also been found near this furnace a species of this last ore intimately blended with plumbago. There are likewise curious beds of yellow garnate, imperfect sienitic granite, in which beautiful opaque blackish brown masses of garnet, of a high resinous luster, "chrystalised on the surface, with laminated epidote, white and compact massive or minutely laminated angite, in parts intimately blended with specks of violet granular feldspar, resembling protresilex; sphene brown garnite, dark green angular angite, like the cocolite of Lake Champlain;" phosphate of lime, spinelle, and black spinelle, specular iron ore, brucite, bronzite, pargazite and idocras, zircon, tremolite, embedded in chrystals of white anzite, actynolite, short chrystals of anzite nearly black, assuming the appearance of volcanic rocks, apalite, an apple green feldspar in chrystalline carbonate of lime, accompanied with beautiful chrystalls of mica, and hexagonal plates of plumbago, soft and almost as fusible as hornblende, a very brilliant pale green hornblende, passing into actynolite, which has been denominated maclureite, blue and white sapphire, enormous green chrystals of angite, at least an inch in diameter, presenting hexædregal and octahearal prisms, with almost equal faces, and terminated by oblique tetrahedral pyramids. In addition to these, geologists who have made a more minute examination of this valley, say that there have also been found here, "scapelite, or wernerite, arsenical pyrites mixed with others, resembling the sulphuret of cobalt, or nickel, with a substance like blende, accompanied by deudrodrite and argillaceous fluate of lime."

At this point a cryslative calcareous rock alternates with granitines of feldspar and quartz, or with beds of sienitic granite. At other places it disappears, and in its place a confluent granwacke, almost porphritic appears; and, cotemporaneous with the other formations, it is observed to be overlaid by a mass of leaden, minutely granular secondary limestone, containing organic remains of the usual shells and coralines, and layers of blackish hornstone or petrossilex. Crystals of blue fluate of lime have been found in large numbers in this rock, and also in the granwacke beneath it. The coraties are sometimes very numerous in the limestone, and lined with pseudomorphorous masses, and white fluate and quartz of crystals. Thus it will be observed, that in this section can be found, as at Lake Champlain, a blending together, or a union, of all classes of rocks, except slate, but which pass decidedly into each other, as if cotemporaneous. This wonderful formation extends into Orange County New-York. In the mountains near Sparta, large masses, miles in extent, of the red oxide of zinc, are found; and as this metal is easily fusible, it may in time become quite valuable and add much to the wealth of this portion of the State. From two inconsiderable sugar-loaf peaks, commonly known as Mounts Adam and Eve, a white crystaline limestone, which is of a very singular formation, has been traced to Byram township, in Sussex County, in an even and uninterrupted course of about twenty-five miles. Its width, however, is variable—sometimes it is two miles, and after, it is not over two rods wide. Except at this Adam and Eve, its general inclination, is low, frequently underlaying the limestone of more recent date. Its continuity in places is scarcely discernable, except by boulders and loose stones scattered abundantly over the surface. It is supposed to extend to Easton, with occasional breaks. In the primitive region, it has been asserted that gold and silver have been found in many places; but upon close examination, the veins have been discovered to be nothing but pyrites, which very much resemble these metals.

Extensive deposites of magnetic iron ore, and other remarkable minerals, occupy a considerable space in the primitive ridges southwest, particularly Scott's Mountain and Jenny Jump. In Scott's mountain, in close proximity to Oxford Furnace, capacious mines of iron were worked, years ago, some of the drifts and shafts being still discernable. In 1832, Messrs. Henry Jordan purchased the works, and commenced operations on a more extended scale. They opened a vein of magnetic ore, which is blended with carbonate of lime, from ten to twelve feet in width, enclosed by parieties of mica shale. The elements of primitive rock are found numerously and strangely united throughout these mountains, which affords considerable interest to the naturalist.

There is a valley northwest of these primitive hills, which is about ten miles wide, extending over the northern parts of Warren and Sussex counties, and which is drained by the Poulins Kill, flowing into the Delaware. This is called Paulins Kill Valley. It is numerously dotted by hills, knolls, and low ridges, which present quite an interesting appearance, and seem scattered over the valley in much confusion; but, still they are easily traceable on the inclinations of the mountains. Limestone of the transition formation, in this valley, alternates with slate. A ridge of considerable magnitude, composed of slate, bounds this valley on the south side, almost from the mouth of its creek to Newton, and on the northeast side it is equally distinguished for its limestone quarries. There is another ridge of slate, suitable for roofing and cyphering slate, found north of the limestone, excellent quarries of which are worked on the Delaware. A bed of granwacke has also been discovered between this slate and the Kettaling or Blue mountains. This mountain contains the usual species of transition rocks, granwacke, and every variety of aggregation, slate, greenstone and mountain limestone. It rises from 1,400 to 1,600 feet high, and is covered with wood, "in which the deer, bear, wolf, and most wild animals indiginous to mountainous countries, still roam." Another little stream, called the Flat Hill, waters a fertile tract of transition limestone land, in a northwestern direction from the mountain.

The mountains of the third section are principally in their natural state, only now and then a fertile cultivated farm is seen on the hill sides; the soil best adapted for agricultural purposes is found in the alluvial valleys, which are well calculated to produce all kinds of farm vegetables. A beautiful specimen of marble is found at Mendham, in this district, capable of being highly polished, and suitable for ornamental architecture, resembling the marble of Florence.

Thus have I given in detail the most striking features of the three grand divisions into which I have divided the geological features of the State of New-Jersey. Perhaps other and more minute investigations than those which I have been able to make may yet discover more attractive features and richer minerals in this State; but, viewing it, however, in its present condition, it may not be out of the way to say, that New Jersey, aside from her numerous manufactories, valuable and productive farms, and other sources of wealth, is now as rich a mineralogical State as any in the Union in proportion to its area. It will also be seen that a wise Providence has well adapted it in every particular for the use and benefit of the different conditions of the human family, and that his grand purposes are evolved in all the works of his creation. D. W. B.

☞ Rev. H. A. Graves, formerly Editor of the Boston *Christian Reflecter*, died at Bristol, R. I., on Sunday, Nov. 3.